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Fifty Ways To Lower Home Building Costs

by ROBERT TAYLOR JONES, A. I. A.



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EDWIN H. BROWN, Secretary,
The American Institute of Architects.

Approved Statement

by the

Department of Commerce

I HAVE looked into the work of The Architects' Small House Service Bureau of The United States with its divisions and branches and have examined its organization and incorporation papers. The complete plans, specifications, documents and bills of materials with the designs worked out for local conditions and to use stock materials and eliminate waste materially simplify home building problems. The form of control by The American Institute of Architects should guarantee a high standard of service. It gives me pleasure to endorse this work and to assure you that the Department of Commerce will do all it can to co-operate with the Institute and the Bureau.

HERBERT HOOVER, Secretary,
Dept. of Commerce,
United States Government.

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Architects' Small House Service Bureau

Plan No. 6-B-20

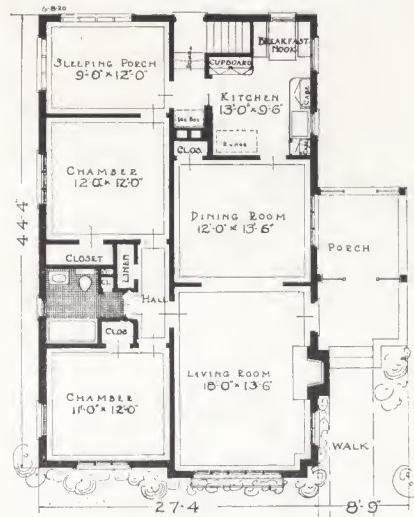
Fifty Ways to Lower Home Building Costs

By ROBERT T. JONES, A. I. A.

Technical Director, *The Architects' Small House Service Bureau of the United States*

THERE are only two ways to erect your home at less expense. The first is to get a contractor who will agree to build your home as you want it, without reducing qualities, at a lower price. The second is to reduce your requirements, to take less than you want, both as to quality and quantity. These are the only ways to reduce costs. Your home will cost more or less, depending upon what sort of a bargain you can drive with the man who builds it, and the qualities of materials you use and to what extent your home is completed.

Probably the oldest way to get lower prices for what you want is to bargain for them. In building this is done by taking bids. Contractors compete with each other for the privilege and profit of building your house. If good contractors are selected for this purpose, everyone of whom is competent to build a good house, this method is a wise and fair one to follow. Then the comparison of prices is drawn between like things and it is safe to rely on the low bid. But competition between high



grade contractors and cheap contractors often puts the former in a position of disadvantage. They cannot compete with the

low prices quoted by the cheap contractors because they will not do the grade of work that satisfies the cheap contractors. Since you also do not want that kind of work, estimates should not be taken from poor contractors. We do not propose that you lower costs of building by substituting inferior qualities of workmanship or materials, for that would not be true economy.

There are many contractors on whose estimates the architect would rely implicitly, without attempting to get competitive bids at all, but there is no doubt that lower prices can often be obtained by bargaining.

Select Contractor With Care

All this is on the presumption that you will have one general contractor in charge of the building of your house. We believe this is the most satisfactory method for small home builders. You make your contractor responsible for turning over to you a completed building in acceptable condition. He not only provides for completing the actual building, but may be made responsible also for the heating, plumbing, electric wiring, and electric fixtures, though some money can be saved by sub-letting contracts for these last items. If sub-contracts are given to separate contractors, choose them with the same care that you would exercise in selecting the general contractor.

Some builders have tried the expedient of eliminating the general contractor altogether and letting all the various parts of the work to sub-contractors. By this method the owner becomes his own general contractor. He must make the sub-contractors accountable to him. He must synchronize the different parts of the work, get the various sub-contractors on the job at the proper time, adjust differences, buy materials, pay for mistakes he makes, spend an amazing amount of time on the job. This is generally not a good method unless the home builder is unusually familiar with the buying of materials and the direction of labor, and is able to solve the many problems that arise in building. This scheme of building eliminates with the general contractor all of his skill, judgment, and experience, which are worth a great deal. When the owner assumes these responsibilities he also assumes the liabilities that go with them. Let us repeat that we do not think it wise to dispense with the general contractor unless the owner is widely experienced in building.

Suppose then you have taken bids, compared what the contractors and sub-contractors have to offer, picked the best ones, quality and price considered, and the money they require to build the house the way the specifications and drawings call for it, *giving you just what you want*, is \$1,000 too high. What can be done? To the solution of this problem can be applied the second method of reducing cost. You can eliminate certain items. You can cut down the qualities.

Beyond a certain minimum limit, almost any sum can be paid for a small house. Take for example the small Colonial house illustrated on page 8. This house has been built many times during the past three years in many different cities. The complete building costs have ranged between \$6,500 and \$10,000. While these variations in cost were due to some extent to the differences in costs of materials and labor in different sections of the country and to the varying profits taken by the contractors, an equally important factor in determining the costs were the requirements of the owners.

The \$6,500 home is not essentially inferior to the \$10,000 home in so far as durability, appearance, and real comfort are concerned. There might have been this difference in cost between similar houses erected side by side by the same contractor. Then the extra cost of the \$10,000 house would mean that some home builder had required high priced finishes and full equipment, and had had to pay for them.

The First Step in Saving

The first essential to a program of reducing the contractor's bid is to know what the drawings and specifications call for. Go over the drawings with great care. Be sure you know what is required. Then eliminate what you do not need—partitions in the basement or attic, porches, fireplace, excess millwork. Get down to the basic facts.

Then you must study the specifications. Almost every clause of this document charges you with a liability to pay. For example, floors may be of oak, pine, maple, or other materials. And if of oak, then which one of the five different grades? With your architect or contractor to help you, you must decide, and with your decision will go certain increases or reductions in total expense.



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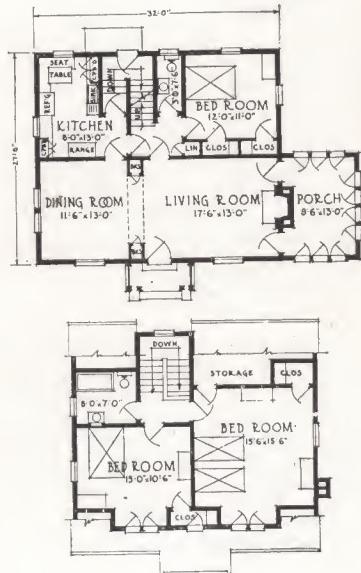
You do not require warning not to attempt to save money at the cost of sound methods of construction or to use materials of a quality too low for durability. That would be fatal, and this story does not advocate such a course. But there are things about the house that you can do without for the time being at least. Certainly also for the sake of owning your own home you can get along with some of the more democratic materials and finishes—the middle grades—durable but not luxurious materials.

The following list is comprised of suggestions for keeping down costs. Please remember that the values we give are only approximate. You will have to verify them in your local market, as they will vary in different localities. The figures we give are presumed to be average and could ordinarily be anticipated in building a small house of two stories of about 750 square feet ground area.

Consider These Items Carefully

1. It is not necessary to partition fully the basement. If partitions are omitted at the time your home is built you can put them in afterward yourself. Only enough to enclose the fuel bin are really needed. You may save from \$50 to \$150 in this way.

2. Game rooms are popular. They make an interesting use of basement space. But

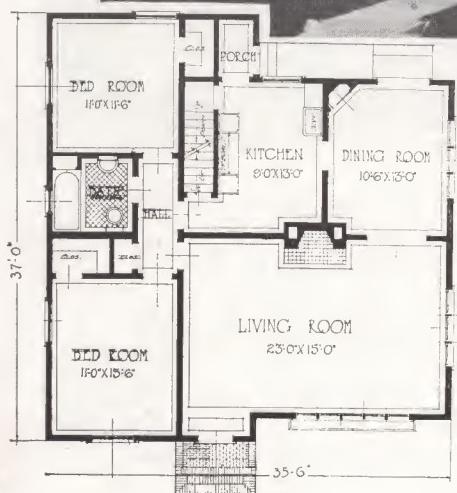


the cost is high if the room is furnished at all well. \$300 or \$400 would not go far in a room of this sort. You can save it.

3. The fireplace has been called the heart of the home. Nevertheless a home will run pretty well without it. If you can bring yourself to omit it, the lowered cost of labor and material may amount to \$300 or \$400—perhaps more.



Plan No. 5-E-1



4. Many wooden houses are improved by the appearance of a brick base course. A stucco house must have some kind of masonry course at grade, and brick is often used for this. If you use brick then select a quality that is within your means. The higher the base course, the more it will cost. You may save from \$50 to \$150 through careful study of this item.

5. One of the most effective and easy ways to save money is to omit the porch. In certain climates this would mean a sacrifice of comfort, but often the porch is not absolutely essential. In any event it may be added at a later time. The cost ranges between \$200 and \$500 or more, depending upon design and size.

6. Glazing a porch is expensive for it requires not only the extra window sash but also the wood trim and its painting, and

more expensive flooring than is used on an open porch. The whole additional expense may run as high as \$500. You can have the porch glazed later on when your funds will permit you to do so.

7. Screening the porch is an extra expense. Full length screens for the windows cost more than half screens. Metal screen frames cost more than those of wood. The wire used in making the screen cloth is of steel, either painted or galvanized, or of copper or bronze. Qualities and durability vary with the cost. Buy the grade of screen you can really afford.

Dept. of Commerce Recommends

8. The Building Code Committee of the United States Department of Commerce has investigated foundations for small homes and has found it generally true that a well built nine inch foundation wall of brick or concrete is such an excellent device as to make the building of a thicker wall unnecessary. You can decrease costs by using the thinner wall provided it is soundly constructed. Thicker walls are required by some ordinances. Peculiar soil conditions may make them necessary. But foundation walls are often built unnecessarily thick.

9. The prices of brick, poured concrete, concrete blocks, or wall bearing tile for foundation work vary with the locality. Brick costs less than concrete in some districts; concrete is less expensive in others; and so on. Poured concrete and concrete blocks should be compared from the point



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Plan No. 6-A-64

of view of price since conditions of the market and at the building site may show that one of these materials has a real price advantage over the other.

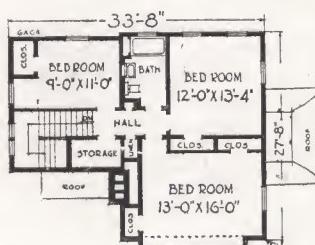
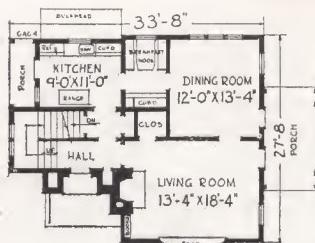
10. Most of our modern homes have full basements, yet it is fair to inquire if this is always necessary. A full basement involves deeper foundations and more excavating. A full basement is not an absolute necessity. The saving involved in omitting it may amount to \$600 or \$700—often more. No matter how much basement you have, you may put in the cement floors later if you cannot afford them now.

11. If the basement excavation is in clay, perhaps you can use the excavation cut for one side of the concrete forms. There would be a saving in doing so. Some building codes do not permit this. If the work is well done, it is nevertheless quite satisfactory.

Initial Cost Versus Depreciation

12. Tile is desirable for bathroom floors, but its greater usefulness does not extend into wainscotes and coves. Money spent for tile work must be in keeping with your funds.

13. If you stucco the exterior of your home, be prepared to pay from \$150 to \$250 more than for wood siding. If the stucco has an especially modeled surface, expense is increased.



14. If you build of brick, the initial extra expense may run from \$500 to \$800 more for the average wooden finished house. Remember, however, that homes finished with exterior walls of masonry carry a better fire insurance rate and there is a reduction in the cost of future painting. Depreciation is lessened. Even though the initial cost of masonry walls is more,



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Plan No. 5-C-10

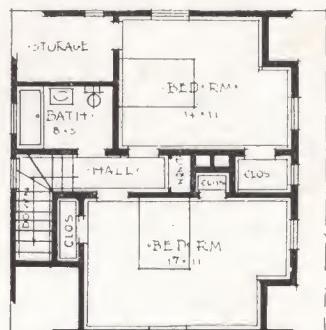
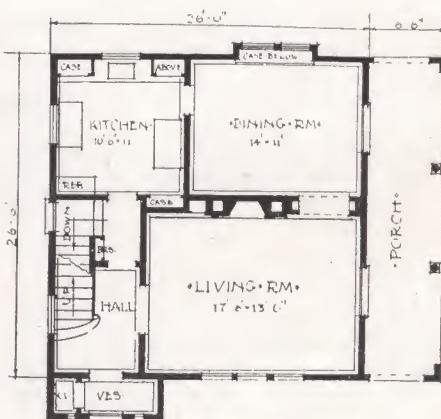
the final cost is less. But you may not have the capital for a building of this class.

15. Wooden shutters bear an important relation to fine appearance in small homes. The improvement they add is out of all proportion to their small cost. Even so, they are not essential to fine appearance and they may be added later on when you have more money. If the cost saved per pair applied is \$10, it is easy to see how \$100 may be saved.

16. Almost all of the devices used to ornament the exterior of your house carry with them an extra cost. When you add wrought iron railings at the door or around the windows, there is an extra cost for the iron work and also for placing it in position. The actual cost must necessarily depend upon how much of this is used. A wrought iron railing around the door may readily cost more than \$50.

17. Perhaps your inclinations are toward a bungalow, but your insistence on having all the rooms on one floor will almost certainly have the effect of increasing expense. Two story houses take less foundation wall, less excavation, less roof.

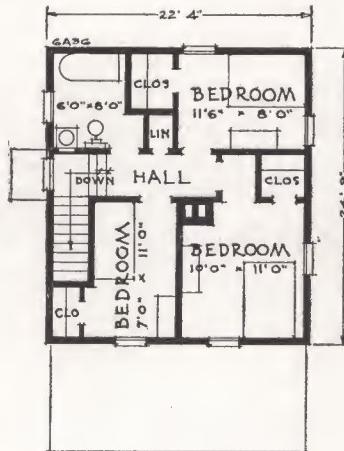
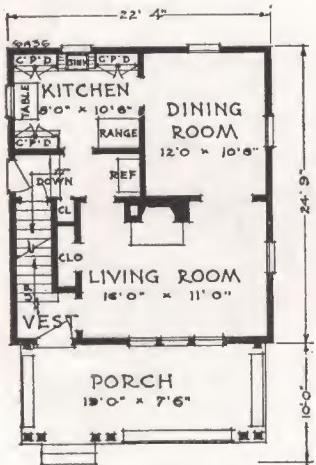
18. The style of architecture of your house has an immediate bearing on its cost. For with certain styles of architecture it is difficult to achieve desired effects without





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Plan No. 6-A-36



going to added expense. If, to have a house at all, it is necessary for you to cut down costs, then choose a simple type of architecture. Rectangular houses generally cost less than those built from plans of irregular shape.

19. Wide siding has a better appearance than narrow siding, but the latter costs less. Various kinds of woods used for this purpose cost different sums. Ready stained shingles used for the side walls of frame houses usually cost less than wide siding. Adjust this item to your pocketbook.

20. The initial cost of wood shingles for roofing is less than tile or slate, although wood shingles are not as durable and they are less fire resisting. Fire laws in some localities require that you use certain special types of roofing materials. There are variations in prices and qualities for each kind. High quality counts heavily, but do not attempt to buy variegated tile with a wood shingle pocketbook. If you have wood shingles brush coated, be prepared to pay from \$25 to \$50 more. If the shingles are dipped the expense will be increased



Architects' Small House Service Bureau

Plan No. 6-A-37

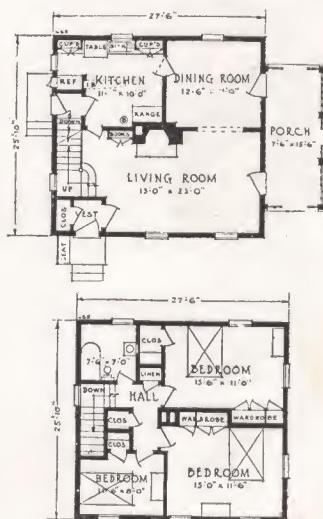
still more, but their durability will be increased. It is better to omit such items as the porch, which can be added at any time, and to spend the money saved on better materials that count for permanent construction, including the roofing.

21. Fire stopping in frame walls is recommended by the National Board of Fire Underwriters. It is designed to reduce losses by fire. Installation of fire stopping material involves an expense of from \$75 to \$150. Whether or not you may omit it depends upon the location of your building with respect to the fire limits and the extent of your home building budget.

Insulation and Millwork

22. We are especially interested in good construction and earnestly recommend that you insist upon it if you hope to make your dollars buy full value. In this connection we think that all exterior wooden walls should be insulated, wherever the house may be located, for insulation performs a real service in fuel savings and in comfort. It is effective in both hot and cold weather. You, therefore, cannot afford to omit insulation in regions of severe winters, but elsewhere it is relatively not so important. An expense of from \$75 to \$350 is involved. Buy the type you can afford.

23. Built-in fittings in the kitchen cost from \$100 to \$300, depending upon their



design, the finish, kind of wood used, and how extensively the kitchen is fitted with them. It might be less expensive for you to do without built-in fittings, at least temporarily, substituting therefore, the ready made devices of the kind. Unless the built-in fittings are extremely well designed, the ready made kitchen cabinets are preferable and they may cost you less.

24. Extra built-in millwork such as book cases, wardrobes, china closets, cost heavily.



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Plan No. 5-A-60

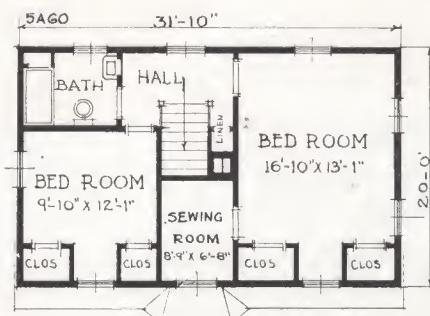
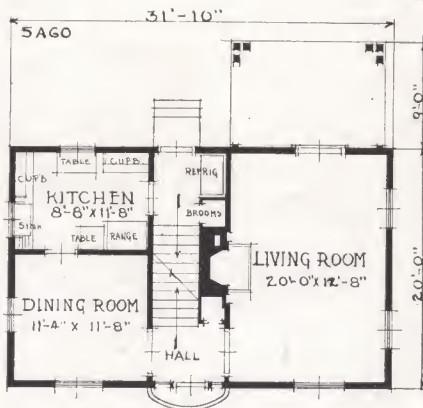
They become real luxuries when means are limited. The actual amount involved depends on how many of these conveniences are used. And you can always buy them when you can afford them.

25. The graceful open stairway with its turned balusters and spiral newel is a delight to the eye. It lends an appearance of quality to the house. But stairs between partitions cost much less. A plaster parapet at the side of the stair is less expensive than an open balustrade.

26. A built-in refrigerator with outside icing door and raised platform is more expensive than a separate refrigerator not so advantageously equipped. A refrigerator waste is also an extra expense. The type of refrigerator must be selected with an eye to the limits of your purse. You may save from \$25 to \$50 on this item.

27. To the mechanically inclined American the idea of an electric refrigerator installed in the home is particularly intriguing. However, it is not essential that this equipment, no matter how desirable, be installed at first. It may be classed properly as one of the worth while devices you will provide for your home when you have the money for it.

28. Perhaps you do not need to finish all the rooms just now. Omitting the plaster,



finish flooring, and wood trim in rooms not needed at first will save something. It would be cheaper in the long run to have all the work done at once, but your ready funds may not permit it.

29. When moldings, kitchen cabinets, doors, and sash are supplied from "stock," they cost less than devices of this kind made to special designs. If you are trying to keep down costs see what your contractor can get ready made from his local lumber dealer's stock. "Special" millwork always costs much more.

30. Hardwood floors cost more than those of soft wood. In every kind of wood there are various grades with varying degrees of expense. For example, as between the first and second grades of plain oak flooring, there may be a difference of \$50 or more in the cost of building your home. The medium grades are durable, and if the millwork is well done, and you have good workmanship with good painting, staining, and filling, appearances will be fine.

Interior Finish and Paint

31. The cost of wood trim varies as does the cost of flooring. Soft wood is less expensive than hardwood for interior finishing. Soft woods such as fir and pine can be used to advantage and at a saving, especially if they are painted. Some of the inexpensive woods, such as cypress or poplar, stained or oiled, are beautiful. As between hardwood and soft wood trim for your home, there may be a difference of \$50 to \$100.

32. Before you have the woodwork finished, find out about the relative expense of stain and varnish, painting, and enamel work. The finish of stain and varnish costs less than paint. Paint costs less than enamel. There may be a difference of \$100 or more in the last two methods. If you enamel only part of the house and paint or stain the remainder, your expense will be decreased proportionally.

33. A bare plastered wall finished smooth is not a pleasing sight, especially to the housewife who loves color and pattern. And yet here is a part of your home making that can be postponed. In the meantime if walls settle a little and the plaster cracks, repairs can be made before decorations are finally applied. The actual reduction in the total cost of building is worth while, especially if you do not have the ready money.

34. The quality of glass used in your house will affect building costs directly. Plate glass costs more than ordinary window glass. Mirrored doors are an extravagance for anyone who must exercise strict economy. French doors, however beautiful, cost money. Perhaps you can omit them for the time being, especially from such openings as the one between the hall and living room.

35. A clothes chute is certainly a convenience, but it could hardly be called an absolute necessity. Properly built of metal and with self-closing doors, it must cost \$25.00 or more.

36. Like practically all the other materials that go into a house, plumbing fixtures are manufactured in several materials—vitreous china, solid porcelain, or iron coated with enamel. Each of these has its special qualities, but the chinaware is more expensive than enameled iron. The extra expense for chinaware is balanced by its advantages in the way of appearance and ease of cleansing but the enameled iron is also durable and costs less.

37. The simple leg tub has practically gone out of style, having been displaced by the recess type, but the latter not only costs more in itself but requires an extra expense in framing and plumbing. A recess tub may cost as much as \$50 more than a leg tub. In the different materials and designs in which this fixture is offered there is a wide range of expense.

38. Lavatories cost more or less depending upon the size and style and the material of which they are manufactured. Between a solid porcelain lavatory and one in enameled iron there may be a difference of \$50. The substitution of an ordinary chain and plug waste device in place of the "pop-up" waste may save \$5.00.

Kitchen Sinks and Laundries

39. There are a great many types of water closets. They are obliged to be made of vitreous chinaware. The simple ones are satisfactory if well made. You can save \$25 to \$50 by selecting a simple and economical fixture of this kind.

40. The kitchen sink is usually made of enameled iron. Sinks with aprons or with drain boards cast on are more expensive than those without either or both of these. A wooden drainboard is less expensive than one of enameled iron. Combination hot and cold water faucets will cost from \$5 to \$10 more than separate faucets.



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41. In the laundry you may spend various sums for tubs depending on what they are made of and their size and number.

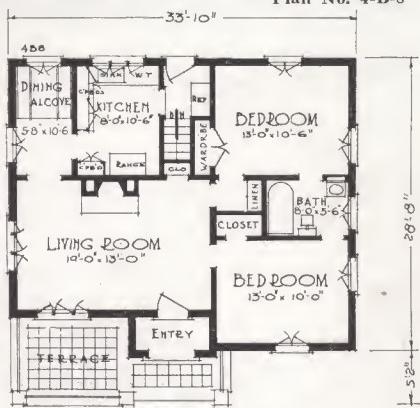
42. Hot water heaters present a fine opportunity for you to spend your money or economize it, depending upon how easily you are satisfied. Those types of hot water heaters which operate so that there is always a supply of hot water are certainly most convenient, but they cost more to operate and the first cost of the equipment is greater than for the type which may be turned on from time to time as required. Costs vary with the convenience afforded. Your plumber will demonstrate this for you.

Heating Plants and Regulators

43. There are several types of heating plants. All are satisfactory if they are well designed and properly installed. Each one has special qualities which distinguish it from the others, and there are differences in costs as well. Personal preferences are usually quite fixed in regard to the kind of heating system that must be used, but you may not be able to buy the particular kind of heating system you prefer. In order to have your house, you must be prepared to take here as elsewhere throughout the building, what you can afford. We urge you not to buy a cheap heating device whatever system you select.

44. A heat regulator should go into every home as a definite means of maintaining even temperatures and of decreasing costs of fuel, but one of these regulators costs from \$50 to \$150, and so may be outside of your immediately available

Plan No. 4-B-8



funds. You may have your house wired for this and install it later on.

45. Since low radiators can be placed under windows they are in the best position to overcome heat losses that take place through the windows. In this position they also leave wall space for furniture. These are advantages the high type radiators do not have, but the high type costs less. You are the one who must decide and who must pay the bills.

46. The equipment of the radiator is another item of variable expense. For example, the valves may be of the ordinary kind, or they may be "leakproof," which cost more, or you may have the "indicator" type. Compare costs on this equipment. Take what you can afford.

47. Heating pipes should be insulated. The better they are insulated the more satisfactory the heating plant will work—the lower its cost of operation—but the quality



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Plan No. 4-A-9

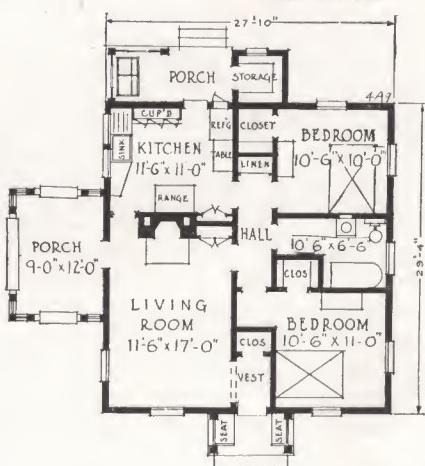
and expense of this insulation has a direct influence on the initial cost of your home. Get a good job here even if you have to wait for it.

48. Hardware represents an opportunity for you to exercise economy. There is a wide difference between the appearance of an ordinary pressed steel doorknob and one made of cast bronze in the form of a lever handle. You must decide whether you will spend \$100 for hardware, or \$200.

49. Electric fixtures, like hardware, do not ordinarily represent a very large percentage of the total building cost. Yet there is a difference in quality and in design and finish, with which go differences in cost. Cast brass fixtures must necessarily cost more than those spun from thin sheets of this metal. There will be a saving here if you are careful. Tastefully designed fixtures may be obtained without excessive cost.

50. The cost of wiring your home will be affected directly by the number of outlets for lighting fixtures and switches that are supplied. The convenience afforded by numerous outlets should be recognized and yet it is wholly possible to install more than is really necessary. The cost is fixed by the rate per outlet. It will be seen that the omission of even two or three at \$4.00 per outlet would mean something.

The above are some practical ways to assist you in reducing the cost of your



home. If you will go over each one, *preferably with a competent local architect to help you*, to see how you can make it apply to your building, and then if you will learn from your contractor the amount of money saved by each one, you will see just what the total sum saved amounts to. Your saving may easily amount to as much as \$1,000. Be sure to cut out the non-essentials first, things that can be replaced later on. But never reduce qualities or workmanship to a point where durability is threatened.

How The Smallest Home Can Have The Architect's Service

THE illustrations in this book show the character of homes erected from plans by The Architects' Small House Service Bureau. More than three hundred designs for smaller homes are now available through eight Regional Service Bureaus and branch offices, located in many of the principal cities of the United States.

The Small House Service Bureau movement is not a substitute for the service of the architect. In fact, the Bureau recommends to the public that an architect be employed for every job, no matter how small or how large. His service is designed to save money, time and trouble, and to insure fine building. If, however, you feel unable to employ an architect to help you with your small home, then the plans, counsel and advice by the Small House Service Bureau are the next best available aid.

The Bureau movement is a limited dividend public service. Its membership is made up of leading architects from representatives architectural offices in the United States. The Bureau is controlled by the American Institute of Architects. It is endorsed by the United States Department of Commerce. It is the only housing agency so controlled and endorsed in this country. Its purpose is to span the gap between builders of small homes and the individual practicing architect, who for economic and oth-

er reasons is often unable to serve directly the small home builder.

No matter how small the house or building budget, anyone who builds now can afford Bureau service. You may obtain excellent designs, thorough working drawings, professional counsel and advice, and many of the other advantages which the individual practicing architect provides—all at small cost.

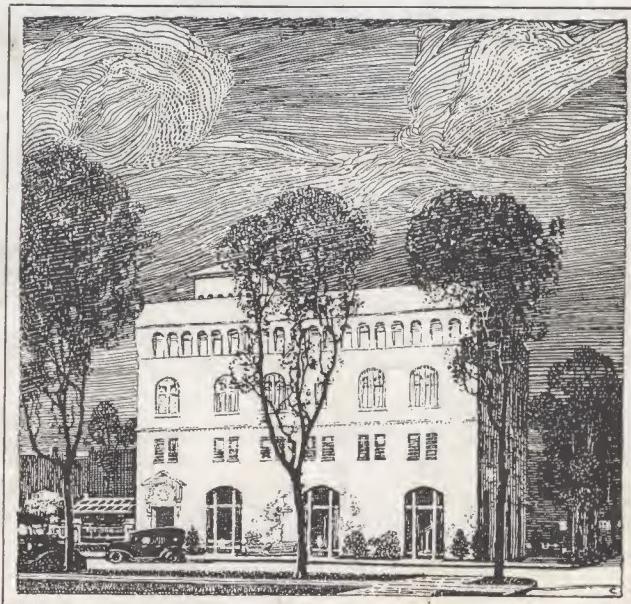
The Bureau endeavors, as far as possible, to make homes built from Bureau plans permanent testimonies to architecture. By extending the benefits of professional architectural skill to a class of builders who ordinarily do not employ an individual architect, the Bureau hopes to aid in improving public taste, to raise standards of small house construction, and increase the permanent satisfaction of home builders.

By addressing a letter to National Headquarters Office, 1200 Second Avenue South, Minneapolis, or any of the regional Bureaus, enclosing 10c in stamps for postage, and stating your home building requirements—type and kind of house, the size style and materials you are interested in, also lot width—suggestions and additional literature will come forward to you.

Bureau service is limited to homes not larger than six rooms in size.

The Architects' Small House Service Bureau
of the United States, Inc.

National Headquarters
1200 Second Avenue South
Minneapolis, Minnesota



Drawing by Charles Chapman

National Headquarters
THE ARCHITECTS' SMALL HOUSE SERVICE BUREAU
OF THE UNITED STATES, INC.
Minneapolis, Minnesota

"*You pay for the Architect's service,
whether you get it or not.*"

—R. T. J.

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